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PHASE SHIFTER

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(57)

An adjustable phase shifter arrangement for varying the relative phase of an RF signal between at least two radiating elements of an antenna array and thereby alter the angle of the antenna array's radiation pattern. The arrangement comprises one or more dielectric phase shifter elements (6) moveably interposed between a conductive strip 15 commonly coupling radiating elements (10, 11, 12, 13 and 14) and a common ground plane (22). By linearly moving the phase shifter element/s which are of a characteristic shape and dimension, the dielectric constant beneath the conductive strip can be varied without disturbing the conductive strip's normal impedance.

CLAIM

1. An adjustable phase shifter arrangement for selectively varying the relative phase of an RF signal of a given wavelength between at least two radiating elements of an antenna array, adjoining radiating elements being electrically coupled with a respective section of a common conductive strip, said conductive strip being in a predetermined space relationship with a common ground-plane element, said conductive strip having a connection point for connecting a source of RF signal of said given wavelength, said arrangement including a phase shifter element comprising two co-planar fixedly spaced substantially identical planar pieces of dielectric material moveably interposed

between at least one said section of said common conductive strip and said common ground-plane element, the length of each said piece being defined by two opposite ends, one end having a first width which is relatively larger than a second width of the other end of said piece with a diminishing width therebetween, wherein the other ends of each said piece are spaced by a distance of approximately one quarter of said given wavelength and said first width is, at least, approximately one quarter of said given wavelength long to form a major end of said phase shifter element having a total width of approximately one half of said given wavelength, whereby the phase of RF signal fed to at least one said radiating element can be selectively varied in relation to the phase of the RF signal fed to an adjoining radiating element/s by linearly moving said phase shifter element between a first position corresponding to said other end of said phase shifter element where minimum dielectric material is beneath said conductive strip, and a second position corresponding to said major end of said phase shifter element where maximum dielectric material is beneath said conductive strip.

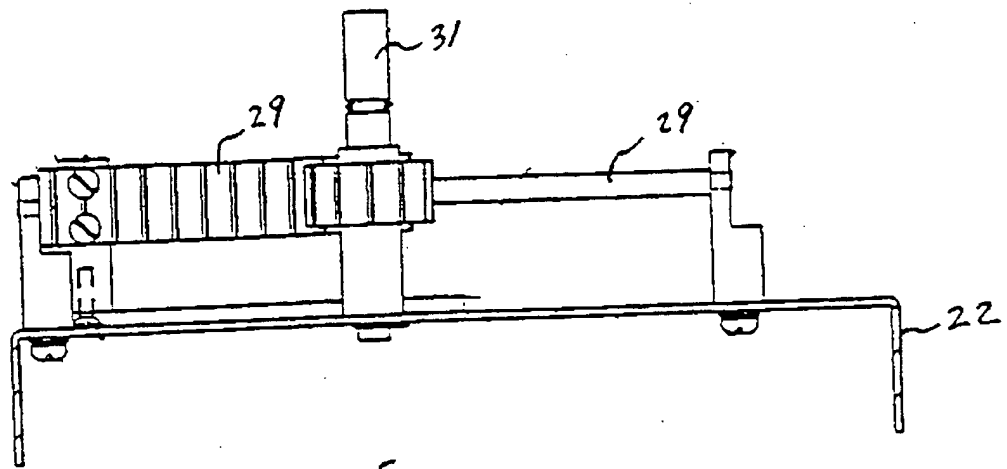


Fig 7

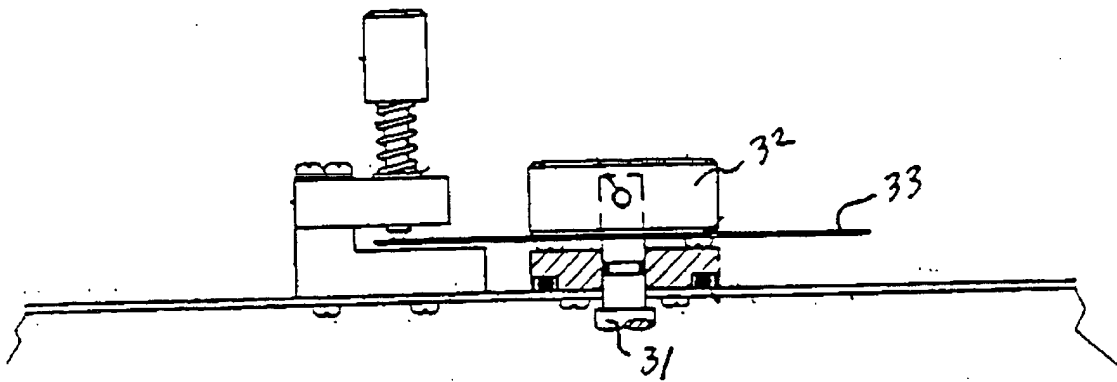


Fig 8